

CLAIMS

1. An air conditioner for a vehicle, comprising  
a fan (3);  
an air conditioning casing (2) that is  
5 provided at the downstream side of the fan (3) in an air  
flow direction and that defines an air passage through  
which air is blown from the fan (3) to a vehicle  
compartment;  
heating means (5) that is housed in the  
10 air conditioning casing (2) and that heats the air blown  
to a vehicle compartment; and  
a flexible diaphragm member (3d) to/from  
which a fluid is charged/discharged to vary the sectional  
area of the air passage (3b), said flexible diaphragm  
15 member being disposed in the air passage (3b) in the fan  
(3), wherein  
the fluid is charged or discharged in  
accordance with a ventilation resistance in the air  
conditioning casing (2).  
20 2. An air conditioner for a vehicle, comprising  
a fan (3);  
an air conditioning casing (2) that is  
provided at the downstream side of the fan (3) in an air  
flow direction and that defines an air passage through  
25 which air is blown from the fan (3) to a vehicle  
compartment;  
heating means (5) that is housed in the  
air conditioning casing (2) and that heats the air blown  
to a vehicle compartment; and  
30 a flexible diaphragm member (3d) to/from  
which a fluid is charged/discharged to vary the sectional  
area of the air passage (3b), said flexible diaphragm  
member being disposed in the air passage (3b) in the fan  
(3), wherein  
35 a heated medium is charged to the flexible  
diaphragm member (3d) in maximum heating.  
3. An air conditioner for a vehicle according to

claim 2, wherein the heated medium is engine cooling water.

4. An air conditioner for a vehicle, comprising a fan (3);

5 an air conditioning casing (2) that is provided at the downstream side of the fan (3) in an air flow direction and that defines an air passage through which air is blown from the fan (3) to a vehicle compartment;

10 heating means (5) that is housed in the air conditioning casing (2) and that heats the air blown to a vehicle compartment; and

a flexible diaphragm member (3d) to/from which a fluid is charged/discharged to vary the sectional area of the air passage (3b), said flexible diaphragm member being disposed in the air passage (3b) in the fan (3), wherein

20 a heated medium is charged to the flexible diaphragm member (3d) in foot mode in which air is blown toward the lower side of a vehicle compartment.

5. An air conditioner for a vehicle according to claim 4, wherein the heated medium is engine cooling water.

25 6. An air conditioner for a vehicle according to claim 1, wherein a number of recessed and projected portions are provided in the portion of the flexible diaphragm member (3d) which is exposed to air passing through the air passage (3b).

30 7. An air conditioner for a vehicle according to claim 1, wherein the flexible diaphragm member (3d) is divided into a plurality of layered spaces, and the spaces to/from which a fluid is charged/discharged are switched in accordance with a ventilation resistance in the air conditioning casing (2).

35 8. An air conditioner for a vehicle according to claim 1, wherein the fan (3) comprises a centrifugal fan (3a) that has a number of vanes, around a rotating shaft

thereof, to supply, in radial directions, air drawn along  
an axial direction of the rotating shaft; and a scroll  
casing 3c that houses the centrifugal fan (3a) and  
defines a spiral air passage (3b) through which air  
5 supplied from the centrifugal fan (3a) passes, and  
the flexible diaphragm member is disposed  
at at least an inner wall of an outer periphery of the  
scroll casing (3c).